

REMARKS

Claim Rejections - 35 USC § 103

Claims 1-4, 6-9, 11-14, and 16-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dean et al. (US Application No. 2002/0152244; hereafter “Dean”) in view of Iwata et al. (US Application No. 2003/0056222; hereafter “Iwata”).

Claims 5, 10, 15, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dean in view of Iwata and Rasmussen et al. (US Application No. 2003/0079234; hereafter “Rasmussen”).

Regarding claim 1

The Examiner cites Dean as allegedly disclosing all of the features of the independent claim 1 with the exception of “a storing unit which stores the multimedia content with the index information”. Applicant respectfully submits that the claimed invention would not have been rendered obvious in view of the applied references, alone or in combination.

Claim 1 recites, in part, “an input unit which receives index information from a user for configuring indexes of multimedia content”. The Examiner asserts that paragraphs [0173], [0176], [0032], and [0232] of Dean correspond to this feature of claim 1. Dean, however, is directed to generating a GUI 702 using GUI widgets from user input (paragraph [0173]). The purpose of the GUI 800 in FIG. 8 of Dean, is to show a GUI that enables the creation/modification of multimedia content. The GUI includes a previously designed set of document fragments for the user to combine into a whole product (paragraph [0159], lines 9-11). The document fragments when combined, form a new fragment detailing a product (paragraph [0159], lines 9-11). The output of the combination process as shown in FIG. 8 and FIG. 9 is an XML document that represents the complete document filled in with the content from the GUI

widgets (see paragraph [0178]). As a result, Dean does not teach or suggest, “an input unit which receives index information from a user for configuring indexes of multimedia content”.

Claim 1 further recites, “a control unit which produces index information for the multimedia content”. The Examiner asserts that Dean disclose this feature in paragraph [0212]:

Within the present invention, Trigger Monitor manages different types of files differently based on their extensions. Servables, simple, compound, and index fragments, stylesheets and multimedia assets are all treated slightly differently in the publishing flow.

and in the Abstract:

The method parses the elements which are subsequently mapped to one or more interface controls such .. content objects.

The “Trigger Monitor” of Dean, however, is built upon the fragment dependency store 716 which is designed to *manage* high numbers of rapidly changing *content fragments* (paragraph [0203], lines 4-6). The “Trigger Monitor” specifically allows the *loading* of *specialized handlers* to perform tasks specific to a particular application (paragraph [0203], lines 9-11). Furthermore, the “Trigger Monitor” system automatically *propagates fragment changes* to all affected fragments and servables, and *allows for multi-stage publishing* to accommodate quality assurance (paragraph [0204], lines 1-5). Finally, the “Trigger Monitor” *manages* different files (paragraph [0212], lines 1-2), but does not suggest or disclose “*a control unit which produces index information for the multimedia content*”.

The Examiner acknowledges that Dean does not disclose the “control unit” and “content having the indexes configured according to the received index configuration and a storing unit which stores the multimedia content with the index information,” but asserts that Iwata allegedly discloses these claimed features.

The Examiner cites a control unit 102 in paragraph [0066] of Iwata as corresponding to the control unit in the claimed invention. The control unit 102 of Iwata, however, *receives* the *screen control information* from the transmission/reception unit 101 and *outputs* a generated screen to the display unit (paragraph [0071], lines 1-5). Thus, the control unit 102 of Iwata does not suggest or disclose “produc[ing] index information for the multimedia content.”

Therefore, Iwata does not compensate for the deficiencies of Dean, and thus, Iwata and Dean, alone or in combination, do not teach or suggest all of the features of claim 1. Applicant respectfully requests that the Examiner withdraw the rejection of independent claim 1, and claims 2-10 *at least* by virtue of their dependency.

Regarding claim 3

Claim 3 recites, “physical button”. The Examiner maintains that this feature is allegedly disclosed by Dean. This element, however, is missing from both Dean and Iwata. Dean shows a “button” which is integrated into the software (see paragraph [0165]) but does not disclose a “*physical* button”. Thus, Dean and Iwata, alone or in combination, do not teach or suggest a “*physical* button” as recited in claim 3.

Regarding claim 4

Claim 4 recites, in part:

wherein the control unit is configured to group predetermined multimedia content into a single multimedia group, for the multimedia content with the configured indexes

The Examiner maintains that the feature, “group predetermined multimedia content” is allegedly disclosed by paragraph [0192] of Dean which discloses:

The system-generated ... content or are necessary for maintaining the functional and semantic role of the fragments. These tags can be further **grouped into** two parts: 1) the tags which are used for describing the XML object, such as

keywords, **categories** and publishing information; and 2) the tags which hold the content of the XML object, such as TITLE and SUMMARY.

and paragraph [0159] of Dean which discloses:

Turning to FIG. 8, shown is a GUI 800 to enable the creation/modification of **multimedia content**.

Dean, however, discloses that *non-system generated tags* can be further grouped into two parts wherein the tags are used for describing the XML objects. Dean does not disclose or suggest, “the control unit is configured to group predetermined multimedia content into a single multimedia group, for the multimedia content with the configured indexes”.

Furthermore, the Examiner asserts that paragraph [0130] of Iwata discloses the claimed feature, “control unit is configured” and “into a single multimedia group, for the multimedia content with the configured indexes”. More particularly, the Examiner cites the following individual elements of Paragraph [0130] of Iwata as allegedly disclosing the claimed invention: “the screen size”, “a **multimedia content**”, “**content data**”. Iwata, however, does not disclose or suggest the features “control unit is configured” and “into a single multimedia group, for the multimedia content with the configured indexes”, as required by claim 4.

Furthermore, there is no motivation or suggestion for the Examiner’s proposed combination of references. Applicant respectfully submits that one of ordinary skill in the art at the time of the presently-claimed invention would not have been motivated to combine Dean and Iwata as suggested by the Examiner because there is no motivation for doing so in the references themselves or the knowledge available to one of ordinary skill in the art without resorting to impermissible hindsight. Dean teaches “tags” which can be further *grouped* into *two parts* (paragraph [0192]). Alternately, Iwata teaches “a multimedia content in which video data and audio data are multiplexed”(paragraph [0130]). The Examiner proposes that it would have been

obvious to one of ordinary skill in the art “to incorporate the teaches of Iwata into the device of Dean use a control unit indexing feature with multimedia content to provide an organizational improvement.” However, the method of Iwata teaches video and audio data multiplexed into a multimedia content while Dean teaches two distinct parts. Therefore, the combination of the two references would be counter to each teaching. Because of the disparity between these two references, the only possible motivation for the Examiner’s proposed combination is Applicant’s own disclosure, the reliance on which constitutes impermissible hindsight reconstruction under MPEP §2143 (see also *In re Vaeck*, 20 USPQ 1438 (Fed. Cir. 1991)).

Accordingly, Applicant respectfully requests that the Examiner withdraw the rejection of claim 4.

Regarding claim 6

Claim 6 recites, in part:

wherein the control unit is configured to create tag information for the multimedia content with the configured indexes.

The Examiner asserts that Dean in paragraph [0191], (“The metastore 712 is used to maintain information about the functional and semantic role of each fragment. The meta-information stored in the metastore 712 is grouped into system-generated tags and non-system generated tags....”) and paragraph [0032], (“FIG. 8, shown is a GUI to enable the creation/modification of multimedia content, according to the present invention”) discloses all features of claim 6. Dean, however, discloses that the values of the system-generated tags are generated by *the dispatcher* and values of the non-system generated tags are specified by *the content creator*; but does not disclose, “the control unit is configured to create tag information for the multimedia content with the configured indexes”.

Regarding claim 7

Claim 7 recites, in part:

wherein the control unit is configured to create metadata files for the grouped multimedia content for the multimedia content with the configured indexes.

The Examiner asserts that paragraph [0232], ("...2 Function... creates the metadata database(s) 712 and database tables. Input - Input is a database management tool and the results of step 1010. This includes the type of meta tags to be included in the tables within the metadata database 712. Output - The metadata database 712 is initialized and made operational..." and paragraph [0205], "...Users may create their own classes to accomplish localized goals, and specify those classes in the configuration file...") of Dean discloses all features of claim 7. Dean, however, does not disclose or suggest the feature, "grouped multimedia content for the multimedia content with the configured indexes".

Iwata does not compensate for the deficiencies of Dean, and thus, Dean and Iwata, alone or in combination, do not teach or suggest all of the features of claim 7. Accordingly, Applicant requests that the Examiner withdraw the rejection of claim 7.

Regarding claim 8

Claim 8 recites, in part:

wherein the metadata file comprises at least an index name for a group, and a start or end number of multimedia content contained in the group, wherein the multimedia belongs to the group.

The Examiner cites paragraph [0098], paragraph [0192], and paragraph [0232] of Dean as disclosing all elements of claim 8. Dean, however, does not disclose "a start or end number of multimedia content contained in the group".

Regarding claim 11

The Examiner cites Dean as allegedly disclosing all of the features of the independent claim 11 with the exception of “creating index information for the selected multimedia content”. After carefully reviewing Dean, Applicant submits that claim 11 would not have been rendered obvious in view of the applied reference.

Claim 11 recites, in part, “selecting multimedia content for which indexes are to be configured”. The Examiner asserts that paragraph [0173], paragraph [0176], paragraph [0032], and paragraph [0232] corresponds to the above mentioned claim 1 feature. Dean, however, is directed to generating a GUI 702 using GUI widgets from user input (paragraph [0173]). The purpose of the GUI 800 in FIG. 8 of Dean, is to display a GUI that enables the creation/modification of multimedia content. The GUI includes a previously designed set of document fragments for the user to combine into a whole product (paragraph [0159], lines 9-11). The document fragments when combined, form a new fragment detailing a product (paragraph [0159], lines 9-11). The output of the combination process as shown in FIG. 8 and FIG. 9 is an XML document that represents the complete document filled in with the content from the GUI widgets (see paragraph [0178]). As a result, Dean does not teach or suggest, “selecting multimedia content for which indexes are to be configured”.

The Examiner acknowledges that Dean does not disclose “creating index information for the selected multimedia content,” but asserts that Iwata allegedly discloses these claimed features.

The Examiner cites paragraph [0130] of Iwata as disclosing, “creating index information for the selected multimedia content”. Paragraph [0130] of Iwata, however, discloses a content storage unit 601 which is a hard disk unit. Iwata, does not disclose “creating index information for the selected multimedia content”.

Therefore, Iwata does not compensate for the deficiencies of Dean, and thus, Iwata and Dean, alone or in combination, do not teach or suggest all of the features of claim 11. Applicant requests that the Examiner withdraw the rejection of independent claim 11, and claims 12-20 *at least* by virtue of their dependency.

Regarding claim 14

For analogous reasons as those relating to the patentability of claim 4, claim 14 should also be patentable over the prior art.

Regarding claim 16

For analogous reasons as those relating to the patentability of claim 6, claim 16 should also be patentable over the prior art.

Regarding claim 18

For analogous reasons as those relating to the patentability of claim 8, claim 18 should also be patentable over the prior art.

Regarding claim 5

Claim 5 recites, in part, “configured to manage the multimedia content under different folders”. The Examiner asserts that Rasmussen discloses the claimed feature citing paragraph [0038], (“Hereby it is possible to operate and control the execution of multimedia content and thereby indirectly the display...”) and paragraph [0230], (“Preferably the method also comprises communication to the control unit of current information/data, such as e.g. options, status, current multimedia execution, files, folders, etc, for presentation on a display or for further/internal use in the control unit”). Rasmussen, however, does not disclose or suggest the claimed elements “different folders”.

Therefore, Rasmussen does not compensate for the deficiencies of Dean and Iwata, and thus, Rasmussen, Iwata, and Dean, alone or in combination, do not teach or suggest all of the features of claim 5. Applicant thus requests that the Examiner withdraw the rejection of claim 5.

Regarding claim 10

Claim 10 recites, in part, “under folders, based on the index information”. The Examiner asserts that paragraph [0230] of Rasmussen discloses the claimed feature, “under folders, based on the index information.” Rasmussen, however, discloses “folders” but does not disclose or suggest that the folders are based on the index information.

Therefore, Rasmussen does not compensate for the deficiencies of Dean and Iwata, and thus, Rasmussen, Iwata, and Dean, alone or in combination, do not teach or suggest all of the features of claim 10. Applicant thus requests that the Examiner withdraw the rejection of claim 10.

Regarding claim 15

For analogous reasons as those relating to the patentability of claim 5, claim 5 should also be patentable over the prior art.

Regarding claim 20

For analogous reasons as those relating to the patentability of claim 10, claim 10 should also be patentable over the prior art.

Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

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DEVICE AND METHOD FOR MANAGING MULTIMEDIA CONTENT IN
PORTABLE DIGITAL APPARATUS

Technical Field

1- The present invention relates to a device and method for managing multimedia content in a portable digital apparatus, and more particularly, to enable efficient management and search of multimedia content using index information by indexing, based on a user's preference, multimedia content to be stored in a portable digital apparatus equipped with a camera and storing the indexed multimedia content.

Background Art

2- Recently, portable digital apparatuses, such as digital cameras, digital still cameras (DSC), camera cellular phones, digital video cameras (DVC), digital voice storage (e.g., MP3, voice recorders, etc.), and PDAs, have been developed and become widely popular. 3- These portable digital apparatuses write and store images and audio data (hereinafter, referred to as "multimedia content") therein, in compliance with predetermined naming rules.

4- DCF (Design rule for Camera File System), which has become widely known and provides a directory and file structure, is used as a standard for naming rules.

5- As shown in FIG. 1, the directory and file structure created under DCF has a top level of a directory named DCIM (Digital Camera Images) under a root directory, and up to 900 different directories under the DCIM directory. A directory name is 8 characters in length which consists of a non-duplicated three-digit series number (e.g., a number between 100 and 999) and the remaining five alphanumeric characters are arbitrarily named by a user.

6- A plurality of files may be recorded in a directory having a name of 8 characters in length, wherein each file may have a name with 8 characters in length which consists of four free alphanumeric characters specified by a user and non-duplicated four-digit series number.

7- The files recorded in this manner as described above may comprise still image

files (*.JPG) in JPEG format, still image files (*.TIF) in TIFF format, and reduced size image files (*.THM) that are still images scaled to a predetermined small size, and also comprise wave audio files (*.WAV) formatted by means of PCM, u-law PCM, or IMA-ADPCM scheme.

- 5- 7. The portable digital apparatuses employing such a DCF-based directory and file structure have complied with the conventions for managing multimedia content by specific directories arbitrarily created by dates.
8. Shooting date or any other information, e.g., series numbers, names of still camera manufactures, random numbers, etc., can be used to make the directory names.
- 10- 9. According to the method for managing multimedia content under conventional DCF, multimedia content acquired on the same date are all stored in the same directory. However, this method is inefficient because this method for managing multimedia content is performed regardless of features of the files to be stored.
- 15- 10. Further, in a case where certain multimedia content is continuously acquired around a date change (for example, after and before 12:00 p.m.), there may occur content that is stored in different directories created by different dates.
11. Thus, there is a problem in that, when a user using the multimedia content stored in the portable digital apparatus desires to search for multimedia content recorded on a specific date, confusion may occur to the user.
- 20- 12. To mitigate the above problem caused by conventional multimedia data management method, the disclosure described in Korean patent application laid-open No. 2002-0061394, entitled "A method for making electronic albums", provides a method for making electronic albums in which data are copied to a program folder so that all data are input at a time and a variety of designs are easily adapted to consumer's preferences.
- 25- While this invention uses program folders for efficient data entry, this invention is, however, not enough to provide effective use of multimedia content.
13. Accordingly, there is a need for an efficient method for managing multimedia content by which fast access to content is achieved by classifying and storing multimedia content stored in a portable digital apparatus, based on user's preference or file features.

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Disclosure of Invention

14. An object of the present invention is to configure an index for predetermined multimedia content stored in a portable digital apparatus equipped with a camera so that a user can manage stored content according to a user's preference.
15. Further, another object of the present invention is to index and store the multimedia content based on the user's preference, thereby achieving easy access to the content through index information, at the time of searching for and displaying the content.
16. In a predetermined portable digital apparatus, according to the present invention, if index configuration is input for classifying multimedia content, a control unit creates index information for the multimedia content having the indexes configured, and the multimedia content are provided through a GUI screen, based on the index information.
17. The input of the index configuration for classifying the multimedia content may be made by using a physical button (hereinafter, referred to as "indexing function button") provided on the exterior of the portable digital apparatus, or by using a user menu provided through the GUI screen configured by the control unit.
18. Further, the GUI screen showing the multimedia content having the indexes configured presents multimedia content under folders classified based on the index information, or presents only multimedia content with configured tag information.
19. According to an aspect of the present invention, there is provided a device for managing multimedia content in a portable digital apparatus, comprising a storing unit for storing a plurality of multimedia content; an input unit for receiving index information from a user so that the multimedia content are classified; and a control unit for producing index information for the multimedia content with the configured indexes.
20. The device may further comprise an output unit for providing a GUI screen for showing the multimedia content.
21. Further, according to another aspect of the present invention, there is provided a method for managing multimedia content, comprising the steps of selecting multimedia content for which indexes are to be configured; and creating index information for the selected multimedia content.
22. The method may further comprise the step of providing multimedia content

through a GUI screen.

BRIEF DESCRIPTION OF DRAWINGS

23. The above and other objects and features of the present invention will become
-5- apparent from the following description of preferred embodiments given in conjunction
with the accompanying drawings, in which:
24. FIG. 1 schematically shows a conventional DCF directory structure for storing
images;
25. FIG. 2 schematically shows a device for managing multimedia content in a
-10- portable digital apparatus according to an embodiment of the present invention;
26. FIG. 3 schematically shows the process of managing multimedia content in a
portable digital device according to an embodiment of the present invention;
27. FIG. 4 schematically shows the process of displaying multimedia content in a
portable digital apparatus according to an embodiment of the present invention;
- 15- 28. FIGS. 5 to 8 schematically show the process of managing images in a digital
camera according to an embodiment of the present invention;
29. FIGS. 9 and 10 schematically show the process of displaying images in a digital
camera according to an embodiment of the present invention; and
30. FIGS. 11 and 12 schematically show the process of displaying images in a digital
-20- camera according to another embodiment of the present invention.

Best Mode for Carrying out the Invention

31. Hereinafter, a device and method for managing multimedia content in a portable
digital apparatus according to the present invention will be described with reference to the
-25- accompanying drawings.
32. Although the device and method for managing multimedia content in a portable
digital apparatus will be described below in connection with a digital camera that stores
image data by configuring index information for the image data, this is merely illustrative.
Therefore, it will be understood by those skilled in the art that various modifications and
-30- equivalents thereof can be made to this invention. For example, when various multimedia

content, including audio and motion pictures, as well as image data, are stored, the multimedia content may be classified by index information configured for the multimedia content, based on index configuration selected by a user.

33. Further, in describing the device and method for managing multimedia content in a portable digital apparatus, metadata files for multimedia content groups, classified based on the multimedia content having indexes configured, are provided in XML format, such as MultiPhotoVideo or MusicPhotoVideo, as a multimedia title industry standard. Therefore, the metadata files may be recognized by various digital apparatuses for using/editing the multimedia content, as well as the portable multimedia apparatuses.
34. FIG. 2 schematically shows a device for managing multimedia content in a portable digital apparatus according to an embodiment of the present invention.
35. As shown in FIG. 2, the device for managing multimedia content according to one embodiment of the present invention comprises an input unit 101, a control unit 103, a storing unit 105, and an output unit 107.
36. The input unit 101 serves to receive index configuration from a user for classifying the multimedia content. For this purpose, the user may use an indexing function button located on the exterior of the portable digital apparatus and provided for entry of the index configuration, or a GUI-based user menu configured by the control unit 103.
37. Further, the input unit 101 receives the index configuration from the user, through the user's inputs or change of date, etc.
38. The control unit 103 is operated to create index information for the multimedia content having indexes configured according to the user's inputs into the input unit 101.
39. The control unit 103 further classifies the indexed multimedia content into groups of multimedia content, and uses the index information to manage the groups under different folders, or creates tag information for the indexed multimedia content.
40. Further, the control unit 103 creates metadata files for the groups of the multimedia content classified based on the indexed multimedia content.
41. The metadata files represent information relating to a group of multimedia content, and may contain an index name for the group, the number of the multimedia content belonging to the group, and a start or end number of multimedia content contained in the

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group.

42. The following shows an example of the metadata files classified into different albums by the groups of indexed multimedia content.

- 5 43. [ALBUM]
- 44. META Index Album=1
- 45. META NUM = 10
- 46. META Start_Index = 1
- 47. META End_Index = 10
- 10 48. [ALBUM]
- 49. META Index Album=2
- 50. META NUM = 8
- 51. META Start_Index = 11
- 52. META End_Index = 18
- 15 53. [ALBUM]
- 54. META Index Album=3
- 55. META NUM=3
- 56. META Start_Index = 19
- 57. META
- 20 58. End_Index = 21

59. For example, a user who uses an MP3 player may wish to classify MP3 files when the user intends to store MP3 files in the MP3 player. For this purpose, the user may input index configuration through the input unit 101.

60. Then, based on the entered index configuration, the control unit 103 creates index information for the MP3 files.

25 61. If a new directory is created by an indexing function of the control unit 103, a stored image has information on the new created directory configured as an index, and predetermined MP3 files including MP3 files to be stored are placed in the new created directory.

30 62. Alternatively, if a new indexing tag is created by the indexing function of the

control unit 103, new tag information are created to MP3 files as index information, and metadata files for groups of the MP3 multimedia content grouped including the indexed MP3 files are created.

63. The storing unit 105 is used to store multimedia content with configured index information by the control unit 103, and may be implemented with Random Access Memory, such as DRAMs, SDRAMs, or UTRAMs, etc., or Flash Memory.
64. The output unit 107 shows the multimedia content stored in the storing unit 105 through a GUI screen, and may be implemented in a liquid crystal display employed in the portable digital apparatus, or a display, such as TV or monitor, connected through a cable.
65. The GUI screen may present multimedia content placed in folders classified based on the index information of the multimedia content, or present only multimedia content with the configured tag information (e.g., a list of the multimedia content may be provided on the screen).
66. The control unit 103 may configure the GUI screen by recognizing the groups of multimedia content with reference to the metadata files and then searching for the multimedia content so indexed.
67. For example, if a user who possesses a MP3 player wishes to review MP3 files stored therein, the output unit 107 displays the MP3 files given the index information, among the stored MP3 files.
68. Then, if the index information corresponds to directory information created by the indexing function, the output unit 107 is caused to present the GUI screen having a directory structure configured based on the index information.
69. In a case where a folder is selected through the output GUI screen, the output unit 107 provides MP3 files placed in the folder searched by referring to the metadata file.
70. On the other hand, if the index information corresponds to tag information created by the indexing function, a metadata file is referred to, in order to group MP3 files including specific MP3 files with the configured index information.
74. Then, the output unit 107 presents a GUI screen showing a list of MP3 files for which the indexes are configured, and also provides the grouped MP3 files, including the MP3 files selected by the user through the GUI screen.

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72. In a device for managing multimedia content used in a portable digital apparatus according to the embodiment of the present invention, all modules therein may be implemented with hardware or software, or some of the modules may be implemented with software.
73. Accordingly, implementation of the device for managing multimedia content with hardware or software falls within the spirit of the present invention, and it will be apparent that modifications and variations to the implementation thereof with hardware or software can be made without departing from the spirit of the present invention.
74. A method of managing multimedia content using the multimedia content management device employed in the portable digital device according to the present invention will be described in detail with reference to the accompanying drawings.
75. A method for managing multimedia content used in a portable digital apparatus according to the present invention comprises the steps of receiving, from a user, index configuration for multimedia content which the user wishes to apply index configuration, creating index information on the multimedia content with configured indexes, and providing the multimedia content through a GUI screen according to the index information.
76. FIG. 3 schematically shows a multimedia content management procedure in a portable digital device according to one embodiment of the present invention.
77. As shown in FIG. 3, at first, multimedia content are received at step S1, then the control unit 103 determines, at step S2, if a user inputs index configuration through the input unit 101 during the recording of the received multimedia content into the storing unit 105.
78. If it is determined that index configuration is selected, the control unit 103 creates indexes for the multimedia content received, based on the input indexing configuration (step S3), and then stores them in the storing unit 105.
79. If it is determined that the index configuration is not input, the control unit 103 stores the multimedia content received in the storing unit 105.
80. FIG. 4 schematically shows a procedure of displaying multimedia content from the portable digital apparatus according to one embodiment of the present invention.
81. As shown in FIG. 4, in step S11, in a case where a user selects a search function

for multimedia content stored in the portable digital apparatus, the control unit 103 reads the multimedia content stored in the storing unit 105.

82. Then, the control unit 103 uses its indexing function to read the multimedia content and then determine whether or not there are multimedia content with index information configured, among the read multimedia content (S12).

83. If it is determined that no multimedia content with configured index information is found, the control unit 103 displays the multimedia content read from the storing unit 105, in a predetermined display method (S13).

84. If it is determined that there exist multimedia content with configured index information, the control unit 103 extracts the relevant index information and metadata file (S14), and, based on the extracted information, configures a predetermined GUI screen to display the associated multimedia content through the output unit 105 (S15).

85. Hereinafter, a method for managing the multimedia content used in a portable digital device according to one embodiment of the present invention will be described in detail, with reference to the accompanying drawings.

86. FIGS. 5 and 6 schematically show file management and display procedures employed in digital cameras according to one embodiment of the present invention.

87. A current date may be used for permitting the management of new images captured by a user using the digital camera. For this purpose, the user selects a shooting mode and then shoots a picture.

88. Then, in order to configure index information to the captured image displayed on an LCD monitor of the digital camera, the user selects a menu button MENU provided on the exterior of the digital camera for managing the captured images, as shown in FIG. 5.

89. When such a menu button is selected, the control unit 103 shows a sub-menu for managing the images on a lower left portion of the LCD monitor, as shown in FIG. 6.

90. The user uses a predetermined navigation button to navigate in the sub-menu, and then selects the desired indexing function by selecting a confirmation or ENTER button.

91. With the selection of the confirmation button by the user, the control unit 103 shows a sub-menu associated with the selected indexing function, as shown in FIG. 7.

92. A configuration menu for configuring indexes for the currently captured images is

activated using the navigation button, and the confirmation button is then selected.

93. When the index configuration is made for the captured images through the above procedures, the control unit 103 configures the index information for the captured images, based on the indexing function.

-5- 94. If the index information configured by the indexing function corresponds to directory information, the control unit 103 creates a new directory (e.g., 20031203abc) having its name combined with the current date for separately managing predetermined images, including the current image.

95. Next, the control unit 103 configures the created directory information
+10 (20031203abc) to the captured image as index information, and then stores it.

96. As far as separate index information is not configured for the images shot by the user through the indexing function, these images are placed in the same directory (20031203abc) according to the index information configured for a previous image.

97. After predetermined images are stored, the user may again select an indexing
-15- function and configure index information for the predetermined images. At this time, predetermined images containing the above images are placed in a new directory created according to the above selected indexing function.

98. On the other hand, if the index information configured by the indexing function corresponds to the index tag information, the control unit 103 creates a new index tag for
-20- separately managing predetermined images including the current image by grouping the predetermined images.

99. Next, the control unit 103 configures the created tag information for the captured image as the index information, records file information for the images with the configured tag information, into a metadata file, and stores it in the storing unit 105.

-25- 100. If the user selects the indexing function after the predetermined images shot by the user have been stored in the storing unit 105, new indexing tags for the current images are again created and configured for the associated image. Further, the metadata file is updated with file information for the images with newly configured tag information.

101. If the user who stored predetermined shot images in the digital camera through the
-30- above procedures intends to review the stored images, the user may select the playback

PLAY button for searching for the stored images.

102. In case of the playback button being thus selected, the control unit 103 determines if there exist images with the configured index information among the images stored in the storing unit 105, and searches for the images having the configured index information.

5- 103. Then, the stored images are provided on a predetermined GUI screen, based on the index information of the searched images.

104. If the index information consists of directory information, a GUI screen containing folder images for respective directories is displayed on the LCD monitor, as shown in FIG. 9.

10- 105. The user may use the predetermined navigation button to activate a folder image for a desired directory to be searched, and then selects the confirmation button.

106. When specific directory (e.g., 20031203abc) is selected by the user, the control unit 103 shows, as shown in FIG. 10, a list of the images stored in the specific directory through the output unit 107.

15- 107. Further, the control unit 103 may provide images stored in the specific directory using a slide show function, through the output unit 103.

108. If the index information consists of tag information, the control unit 103 refers to the metadata file to search for the images to be grouped, based on the images with the configured index information and the index information of the relevant images.

20- 109. Then, as shown in FIG. 11, a slide show function may be activated to provide slide shows for the images with the configured index information. Moreover, if a specific image is selected by the user, a list of images grouped based on the index information, which are showed through the slide shows, is provided, as shown in FIG. 12.

110. Furthermore, the control unit 103 provides the grouped images using the slide shows through the output unit 107.

25- 111. Another embodiment of the present invention may be provided which the indexing function is performed using the indexing button provided on the exterior of the digital camera.

112. The indexing function activated by the indexing button is performed in the same manner as that of the indexing function by the menu button.

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413. According to the foregoing, the user may manage the images shot on a specific date, but this invention is not limited thereto, the captured images may also be managed by places, place names, etc.

414. Accordingly, the true technical scope of the present invention should be defined by the appended claims.

Industrial Applicability

415. According to the present invention, the present invention has an advantage in that a user can manage multimedia content stored in a portable digital apparatus by configuring preferred indexes for predetermined multimedia content.

416. Further, the present invention provides a method for managing multimedia content by grouping the multimedia content according to his/her preference and storing them, thereby providing quick, convenient searches for the desired multimedia content.

417. Although the present invention has been described in connection with the embodiments illustrated in the drawings, it will be apparent to those skilled in the art that various substitutions, modifications and changes may be made thereto without departing from the technical spirit and scope of the invention. Thus, the present invention is not limited to the embodiments and the accompanying drawings.